

REMARKS

Examiner has renewed her rejection of Claims 17-20 under 35 U.S.C. § 103(a) as being unpatentable over *Choi* in view of *Maus et al.* (US 6,024,902), and has renewed her rejection of Claim 21 under 35 U.S.C. § 103(a) as being unpatentable over *Choi* in view of *Joseph* (US 5,891,383). Specifically, Examiner states that "all the sensors are off the shelf sensors that are used in an injection molding process as disclosed by *Maus* and *Joseph*," and that "therefore, it would have been obvious to a person of ordinary skill in the art to use such sensors in the injection molding system of *Choi*...."

In response thereto and to further clarify Applicant's invention, Applicant has amended Claims 17-21 to more succinctly claim and distinguish Applicant's device and respectfully traverses Examiner's rejections.

Examiner references Col. 1, lines 18-20 and lines 27-31 of *Maus* ('902) as teaching to "a full automated method and apparatus with improved quality products," and hence rendering the combination of *Choi* ('741) and *Maus* ('902) obvious. However, Applicant respectfully points out that the automated methods described are clearly distinguished from Applicant's invention. *Maus* ('902) teaches only toward automation of processes for dip

hardcoating of lenses and/or cosmetic quality inspection. Neither of these processes is similar to Applicant's invention, nor does their teaching suggest any anticipation of utilizing automated sensory data acquisition for machine control. Moreover, as more fully described below with respect to each claimed embodiment, even if *Choi* ('741) and *Maus* ('902) were combined, one would not arrive at or anticipate Applicant's invention. Even if the cited art did disclose sensors like those in Applicant's invention, *arguendo*, Applicant respectfully notes *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (wherein substituting one type of detector from a secondary reference in the system of the primary reference was held not to be within the skill of the art), adding or substituting one type of sensor from the secondary *Maus* ('902) or *Joseph* ('383) reference in the system of the primary *Choi* ('741) reference is not motivated by or within the skill of the art.

Specifically, with respect to *Maus* ('902) and Claim 17, Examiner referenced Col. 23, lines 37-45 for disclosure of "at least one vision sensor." Applicant respectfully notes that even if the "vision sensor" of *Maus* ('902), as cited by Examiner, were an "off the shelf sensor used in an injection molding process," it is clearly distinguished from the vision sensor of the present invention because it is a self-described transfer station for receiving a finished lens product and for inspecting the lens via video or laser-scanning for acceptance or rejection based on flaw

deviations. The video/laser-scanning inspection station of *Maus* ('902) is unlike the present invention in that it merely examines a completed product AFTER EXIT from the lens forming workstation and after transfer to a separate "computer-assisted-vision lens inspection system FOR COSMETIC INSPECTION." Applicant's vision sensor is not merely a separate means for cosmetic inspection of formed parts, but is an integrated means for eliciting real-time data regarding the status of the formed product relative to the part-forming mold in order to affect the functionality of, and increase the productivity of, the part-forming process. The *Maus* ('902) inspection station does not affect the functionality or productivity of the part-forming process.

Thus, even if *Choi* (US 6,275,741) and *Maus* ('902) are combined, one does not arrive at Applicant's invention. Applicant respectfully notes that all the claim limitations must be taught/found in the prior art. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Neither *Choi* ('741) nor *Maus* ('902) teach or anticipate a vision sensor for assessing the status of a formed part relative to the part-forming mold and **for utilizing the resulting data to control the part-forming process**. In light of Applicant's present amendment to clarify that the vision sensor of his device acquires data regarding the presence or absence of the part, that is, the status of the part relative to the mold,

Applicant respectfully asserts that all the claim limitations of Applicant's invention are not found in the prior art.

Specifically, with respect to *Maus* ('902) and Claim 18, Examiner referenced Col. 21, line 18 and Col. 20, line 65 for disclosure of sensory electronics having "at least one infrared sensor." Applicant again respectfully notes that even if the "infrared sensor" of *Maus* ('902), as cited by Examiner, were an "off the shelf sensor used in an injection molding process," it is clearly distinguished from the infrared sensor of the present invention because it is merely a self-described "noncontact infrared pyrometer" for assessing the temperature of a finished lens product.

The infrared pyrometer of *Maus* ('902) is unlike the present invention in that it merely functions to report the temperature of a completed product AFTER demolding. Applicant's infrared sensor is not a means for measuring the temperature of formed parts, but is an integrated means for eliciting real-time infrared image data regarding the status of the formed product relative to the part-forming mold in order to affect the functionality of, and increase the productivity of, the part-forming process. The *Maus* ('902) infrared pyrometer does not affect the functionality or productivity of the part-forming process, nor does it anticipate any adaptation toward such a use.

Thus, as noted above, even if *Choi* (US 6,275,741) and *Maus* ('902) are combined, one does not arrive at Applicant's invention. Neither *Choi* ('741) nor *Maus* ('902) teach or anticipate an infrared sensor for assessing the status of a formed part **relative to the part-forming mold** and for utilizing the resulting data to control the part-forming process. In light of Applicant's present amendment to clarify that the infrared sensor of his device acquires data regarding the presence or absence of the part, that is, the status of the part relative to the mold, Applicant respectfully asserts that all the claim limitations of Applicant's invention are not found in the prior art.

Specifically, with respect to *Maus* ('902) and Claim 19, Examiner referenced Col. 13, lines 4-5 for disclosure of sensory electronics having "at least one air pressure sensor." As per Applicant's previously filed response, Applicant respectfully believes Examiner's citation is to Col. 14, lines 4-5, wherein a reference is found to air valves for control of air flow and pressure. Applicant respectfully notes that the Examiner's cited "air pressure sensor" of *Maus* ('902) is clearly distinguished from the air pressure sensor of the present invention and is unlike the present invention in that it merely functions as a component of an air blow ejection sequence. Applicant's air pressure sensor is not a component of an air blow ejection sequence, although it could be

utilized in addition to such an ejection sequence. Applicant's air pressure sensor is a means for assessing the presence or absence of a part within a part-forming mold via analysis of sensed air pressure data, wherein the resulting data is utilized for operational control of the part-forming process. There is no air pressure sensory data acquired, reported or utilized for directing machine control in *Maus* ('902). On the contrary, air pressure is merely controlled via air valves in order to assist in blowing a driving force for part ejection. Applicant's air pressure sensor is not assisting in the ejection, but is assessing the status or successful completion of the ejection.

Thus, as noted above, even if *Choi* (US 6,275,741) and *Maus* ('902) are combined, one does not arrive at Applicant's invention.

Neither *Choi* ('741) nor *Maus* ('902) teach or anticipate an air pressure sensor for assessing the status of a formed part and for utilizing the resulting data to control the part-forming process. In light of Applicant's present amendment to clarify that the air pressure sensor of his device acquires data regarding the presence or absence of the part, that is, the status of the part relative to the mold, Applicant respectfully asserts that all the claim limitations of Applicant's invention are not found in the prior art.

Specifically, with respect to *Maus* ('902) and Claim 20,

Examiner referenced Col. 9, lines 9-29 for disclosure of sensory electronics having "at least one vacuum sensor." As per Applicant's previously filed response, Applicant respectfully believes Examiner's citation is to Col. 24, lines 9-29, wherein a reference is found to a vacuum-deposition chamber. Applicant respectfully notes that Examiner's cited "vacuum sensor" as "inherent" in the vacuum-deposition chamber of *Maus* ('902) is clearly distinguished from the vacuum sensor of the present invention and is unlike the present invention in that it merely functions as a sub-component of a coating application chamber, wherein anti-reflective coating is vacuum-deposited onto a formed lens after ejection and transfer from the mold.

Applicant's vacuum sensor is not a sub-component of a post-mold, vacuum-based treatment process for formed and ejected products, but is a means for assessing the status of a part relative to the mold via data acquired regarding vacuum pressure within the mold itself, wherein the resulting data is utilized for operational control of the part-forming process. If the vacuum-deposition chamber of *Maus* ('902) does include a vacuum sensor, it is inherently limited to the functionality of vacuum-deposition chamber and does not link to, direct or anticipate any interaction with the part-forming machine.

Thus, as noted above, even if *Choi* (US 6,275,741) and *Maus* ('902) are combined, one does not arrive at Applicant's invention. Neither *Choi* ('741) nor *Maus* ('902) teach or anticipate a vacuum sensor for assessing the status of a formed part relative to the mold and for utilizing the resulting data to control the part-forming process. In light of Applicant's present amendment to clarify that the vacuum sensor of his device acquires data regarding the presence or absence of the part, that is, the status of the part relative to the mold, Applicant respectfully asserts that all the claim limitations of Applicant's invention are not found in the prior art.

Finally, with respect to *Joseph* ('383) and Claim 21, Examiner referenced Col. 2, lines 53-56 and Col. 6, lines 9-17 for disclosure of "at least one ultrasonic sensor." Applicant respectfully notes that even if the "ultrasonic sensor" of *Joseph* ('383), as cited by Examiner, were an "off the shelf sensor used in an injection molding process," the method and object of use are clearly distinguished. The ultrasonic sensor of *Joseph* ('383) is unlike the present invention in that it is employed to assess the diameter of a tube-shaped film AFTER it is extruded from an annular die. Applicant's ultrasonic sensor is not a means for assessing parameters of a formed part after exit from a die or mold, but is an integrated means for eliciting real-time data regarding the

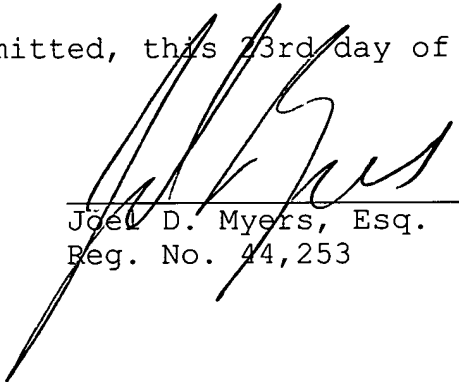
status of the product relative to the part-forming mold in order to affect the functionality of, and increase the productivity of, the part-forming process. The focus of Applicant's ultrasonic sensor is the status of the mold, wherein the data from the *Joseph* ('383) ultrasonic sensor **cannot be** related to whether or not the mold or die is empty because it is only focused on the product parameters following **exit** from the die.

Thus, even if *Choi* ('741) and *Joseph* ('383) are combined, one does not arrive at Applicant's invention. Applicant again respectfully notes that all the claim limitations must be taught/found in the prior art. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Neither *Choi* ('741) nor *Joseph* ('383) teach or anticipate an ultrasonic sensor for assessing the status of a part-forming mold. Given Applicant's present amendment to clarify that the ultrasonic sensor of his device acquires data regarding the presence or absence of the part within the mold, Applicant respectfully asserts that all the claim limitations of Applicant's invention are not found in the prior art.

CONCLUSION

The above-made amendments are to form only and thus, no new matter was added. Applicant respectfully believes that the above-made amendments now place the Claims and application in condition for allowance. If Examiner disagrees with Applicant's arguments, Applicant respectfully requests an interview. Should the Examiner have any further questions and/or comments, Examiner is invited to telephone Applicant's undersigned Attorney at the number below.

Respectfully submitted, this 23rd day of July, 2003.



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